

Figure 1A

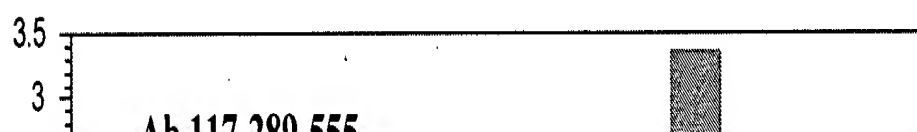
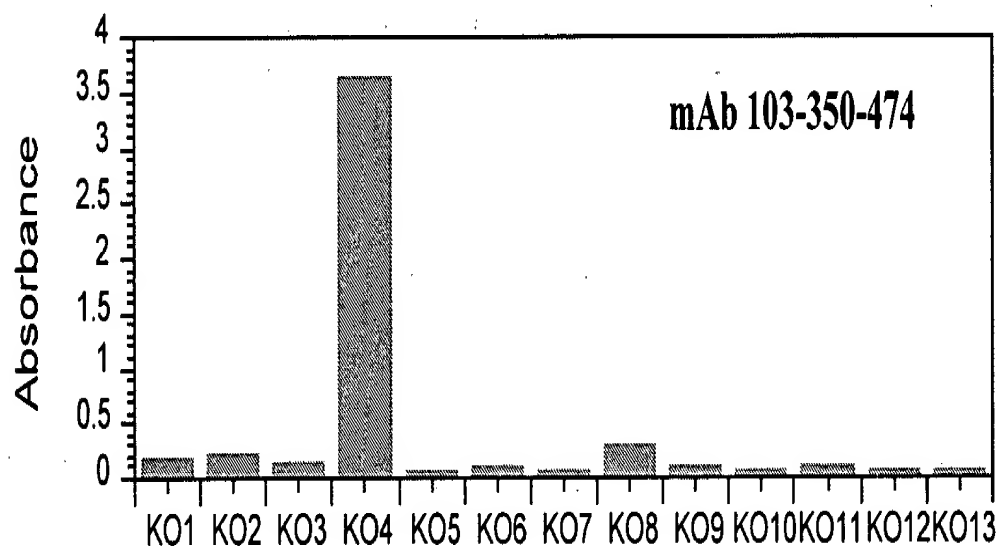
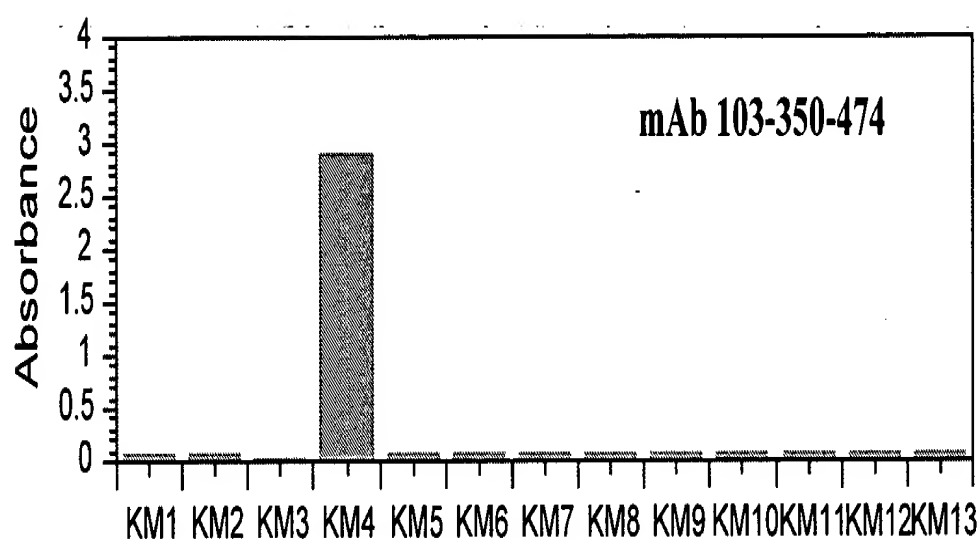
helix A                      helix B  
 ~~~~~~  
 HIV-1'O' 1 PVVPNAQGQMIHQALSPRTLNAWVKAVEEKAFNPFIIPMFMALEGAIPY 50  
 | : | | | | : | | | | | | | | | | : | | | | | | | | | |  
 HIV-1'M' 1 PIVQNIQGQMVHQAI SPRTLNAWVKVVEEKAFSPFVIPMFSALSEGATPQ 50  
 M1/O1 pept.  
 |-----| M2/O2 pept.                      M3/O3 pept.  
 |-----|-----|-----|  
 helix C                      helix D  
 ~~~~~~  
 HIV-1'O' 51 DINIMLNAIGGHQALQVLKEVINEEAADWDRSHPPVVGPLPPGQIREPT 100  
 | : | | | : | | | | | | | | | | : | | | | | | | | | |  
 HIV-1'M' 51 DLNTMLNTVGGHQAAMQMLKETINEEAAEWDRVHPVHAGPIAPGQMRPR 100  
 -----| M4/O4 pept.                      M5/O5 pept.  
 |-----|-----|-----|  
 helix E                      helix F                      helix G  
 ~~~~~~  
 HIV-1'O' 101 GSADIAGTTSTQEQVHWITRANHPVPVGGDIYRKWIVLGLNKMVKMYSPTS 150  
 | | | | | | | | | | : | . | | | : | | | : | | | : | | | | | |  
 HIV-1'M' 101 GSADIAGTTSTLQEQIGWMTN.NPPIPVGEIYKRWIILGLNKIVRMYSPTS 149  
 --| M6/O6 pept.  
 -----|  
 M7/O7 pept.                      M8/O8 pept.  
 |-----|-----|-----|  
 helix H                      helix I                      helix J  
 ~~~~~~  
 HIV-1'O' 151 ILDIKQGPKEPFRDYVDRFYKTLRAEQAIQDVKNWMTETLLVQNANPDCK 200  
 | | | | : | | | | | | | | | | : | | | | | | | | | |  
 HIV-1'M' 150 ILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQNANPDCK 199  
 \*\*\*\*\* (MHR)  
 M9/O9 pept.  
 -----|  
 M10/O10 pept.                      M11/O11 pept.  
 |-----|-----|-----|  
 J                      helix K  
 ~~~~~~  
 HIV-1'O' 201 QILKALGPGATLEEMMVACQGVGGPTHKAKLL 232  
 | | | | | | | | | | : | | | | | | | | | |  
 HIV-1'M' 200 TILKALGPAATLEEMMTACQGVGGPGHKARVL 231  
 M12/O12 pept.                      M13/O13 pept.  
 -----|-----|

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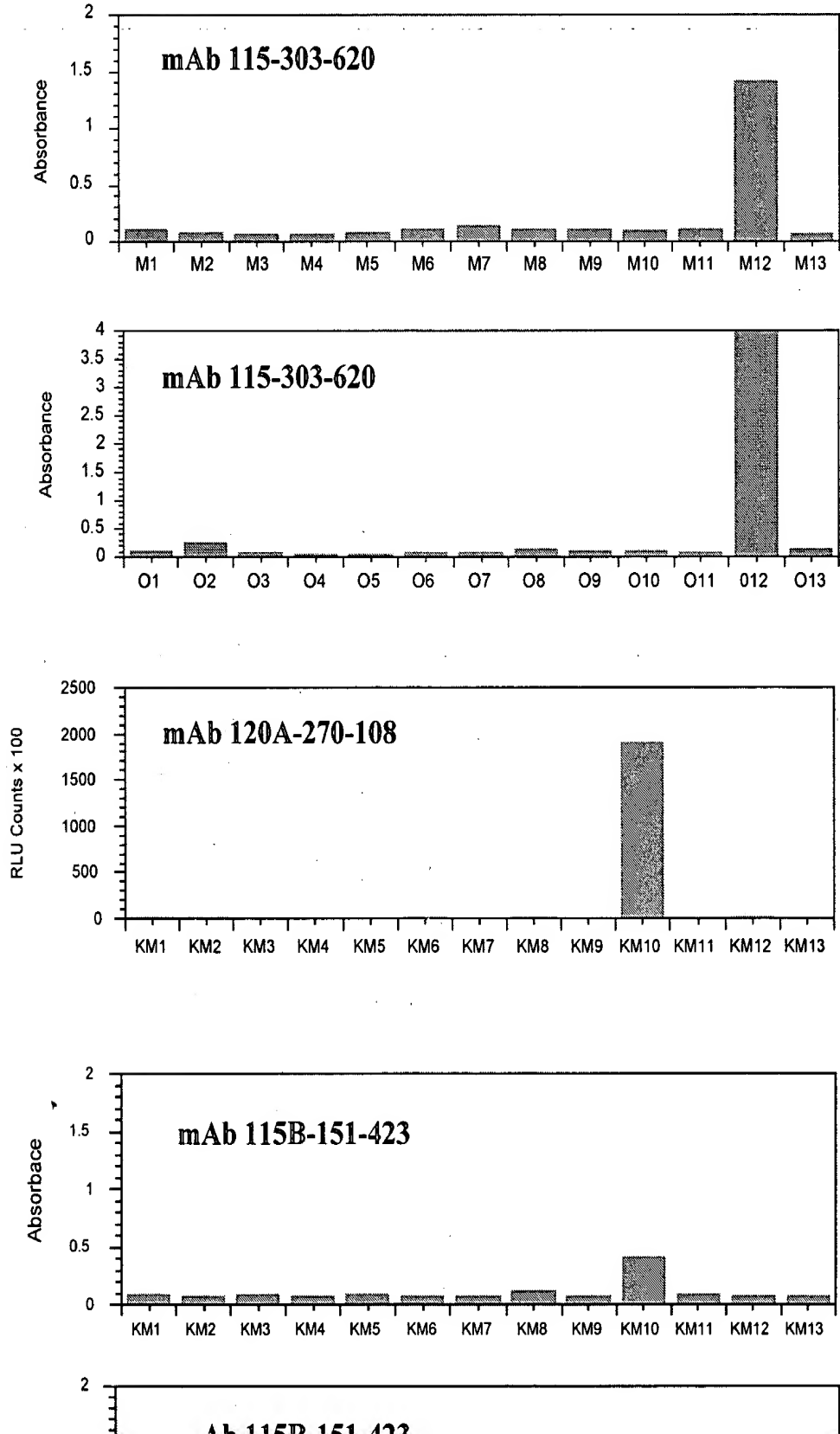
**Sequence alignment f HIV-1 p24 antigen from Group O (Ham 112) and Group M (HXB2) and HIV-2 p26 antigen from subtype A (D194)**

|          |     | helix A                                     | helix B                          |                               |
|----------|-----|---------------------------------------------|----------------------------------|-------------------------------|
| HIV-1'O' | 1   | PVVPNAQGQMIHQALSPRTLNAWVKA                  | VEEKAFNP                         | EIIPMF                        |
| HIV-1'M' | 1   | PIVQNIQGQMVHQALSPRTLNAWVKV                  | VEEKAFS                          | PEVIPM                        |
| HIV-2'A' | 1   | P.VQQAGGNYIHVPLSPRTLNAWVKL                  | VEEKKF                           | GAEVVP                        |
|          |     |                                             |                                  | GFQALSEGCTPY 49               |
|          |     |                                             |                                  |                               |
|          |     | helix C                                     | helix D                          |                               |
| HIV-1'O' | 51  | DINIMLNAIGGHQ                               | GALQVLKEVIN                      | EEAADWDRSHPPVVG               |
| HIV-1'M' | 51  | DLNTMLNTVGGHQA                              | AMQMLKETINEE                     | AAEWDVRVHPVHAGPIAPGQMREPR 100 |
| HIV-2'A' | 50  | DINQMLNCVGDHQA                              | AMQIIREIINEE                     | AAADWDAQHPIP.GPLPAGQLRDRP 98  |
|          |     |                                             |                                  |                               |
|          |     | helix E                                     | helix F                          | helix G                       |
| HIV-1'O' | 101 | GSDIAGTTSTQQEQV                             | HWITRANHPPVP                     | VGDIYRKWIVLGLNKMVKMYS         |
| HIV-1'M' | 101 | GSDIAGTTSTLQEQI                             | GWMTN.NPPIPVGEIYKRWIILGLNKIVRMYS | SPTS 149                      |
| HIV-2'A' | 99  | GSDIAGTTSTVDEQIQW                           | MYRQPNPVPVGN                     | NIYRRWIIQIGLQKCVRMYNPTN 148   |
|          |     |                                             |                                  |                               |
|          |     | helix H                                     | helix I                          | helix J                       |
| HIV-1'O' | 151 | ILDIKQGPKEPFRDYVDRFYKTLRAEQAIQDVKNWMTETLLVQ | NANPDCK                          | 200                           |
| HIV-1'M' | 150 | ILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQ | NANPDCK                          | 199                           |
| HIV-2'A' | 149 | ILDVKQGPKESFQSYVDRFYKSLRAEQTDPVKNWMTQTLLIQ  | NANPDCK                          | 198                           |
|          |     |                                             |                                  |                               |
|          |     | J                                           | helix K                          |                               |
| HIV-1'O' | 201 | QILKALGPGATLEEMMVACQGVGGP                   | THKAKLL                          | 232                           |
| HIV-1'M' | 200 | TILKALGPAATLEEMMTACQGVGGPGH                 | KARVL                            | 231                           |
| HIV-2'A' | 199 | LVLKGLGMNPTLEEMLTACQGVGGPSQ                 | KARLM                            | 230                           |

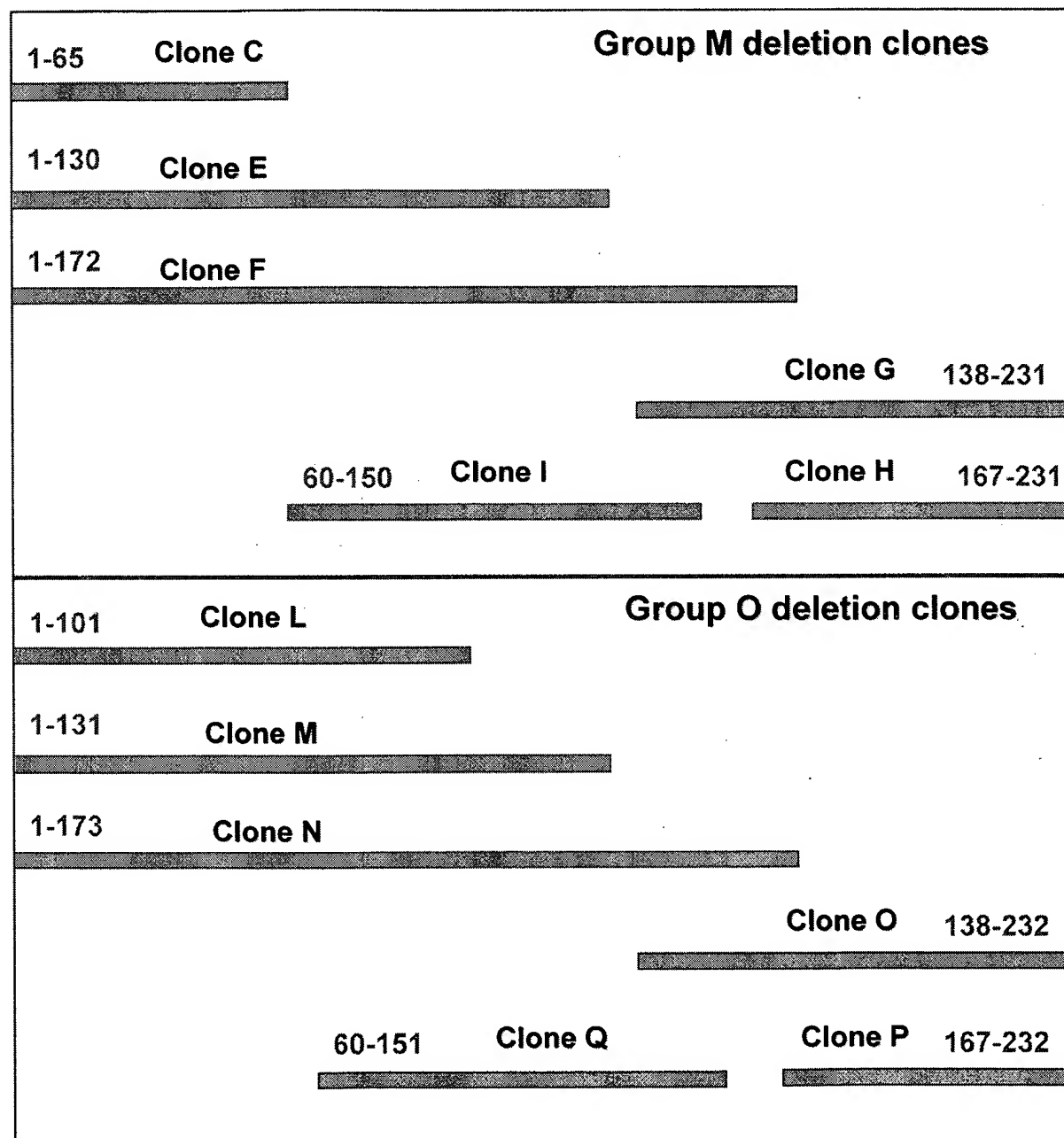
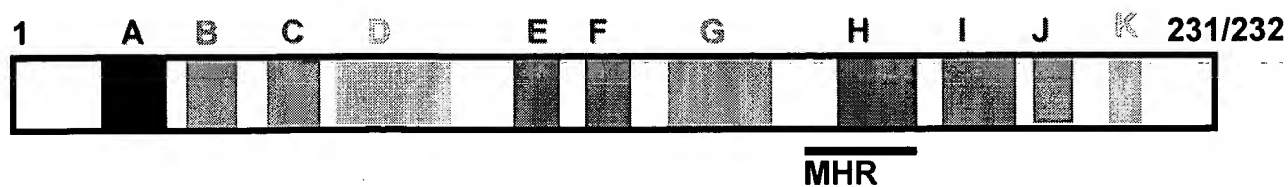
**Figure 2A. Monoclonal antibodies 103-350-474 and 117-289-555 binding to p24 peptides**



**Figure 2B. Monoclonal antibodies 115-303-620, 120A-270-108 and 115B-151-423 binding to p24 peptides**



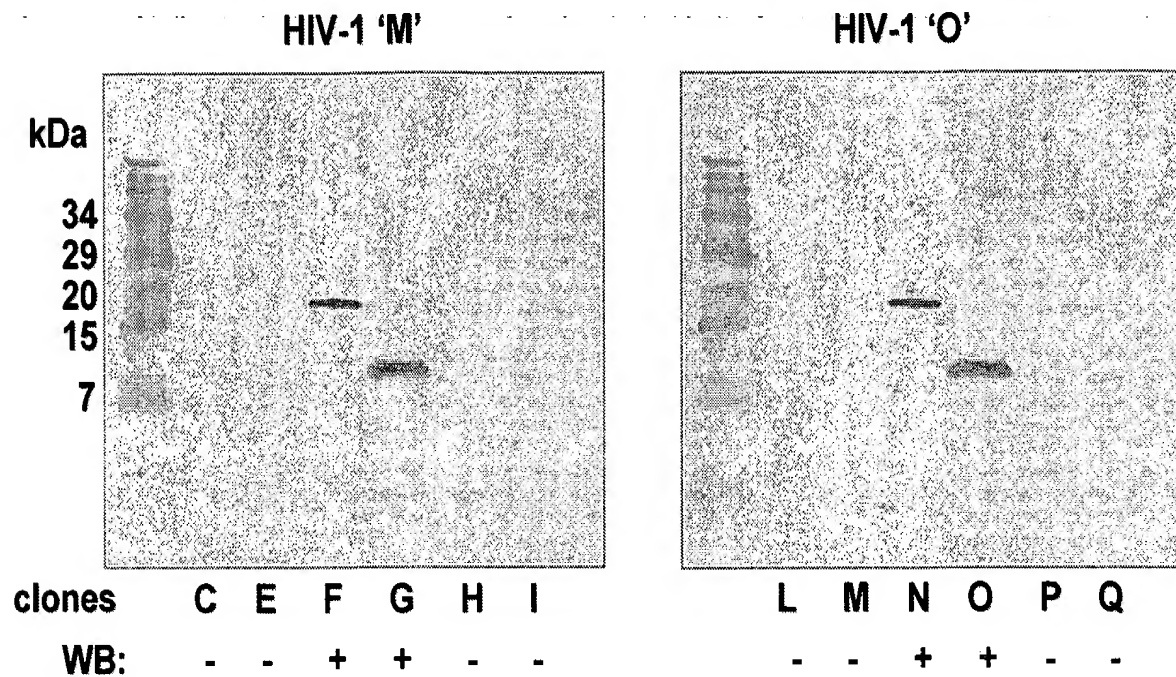
**Figure 3 Location of deletion clones derived from HIV-1 group M and O p24**



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**Figure 4 Western blots of mAbs against p24 deletion clones**

**Western blot of mAb 115B-151-423 against deletion**



**Western blot of mAb 108-394-470 against deletion**

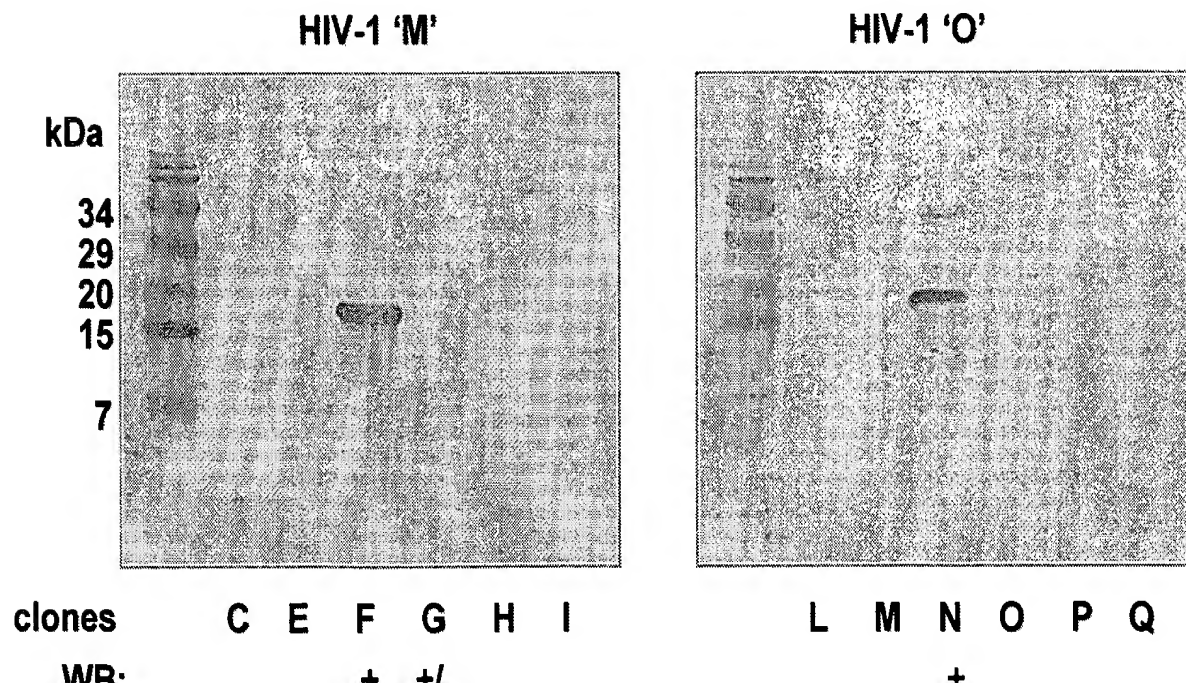
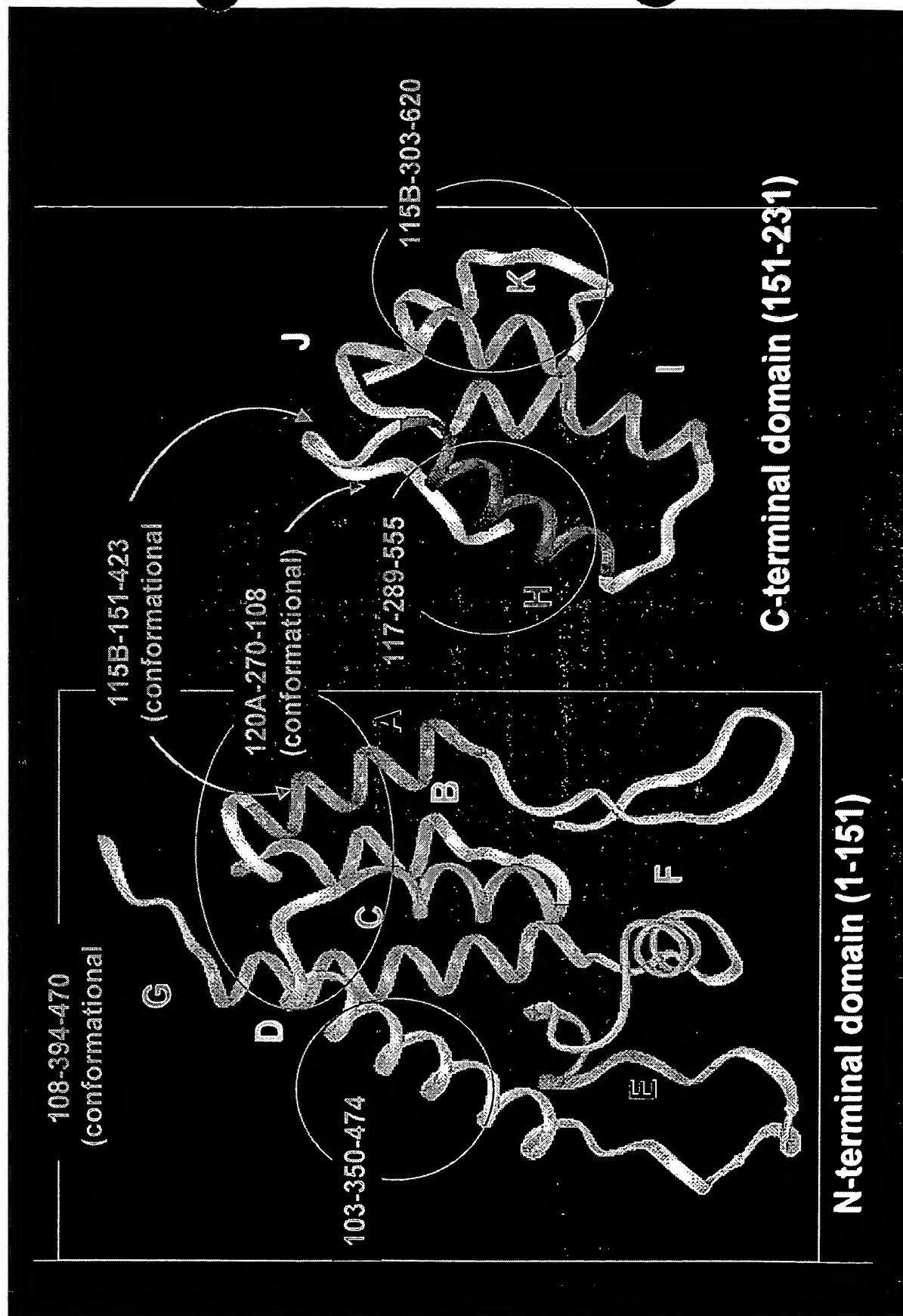
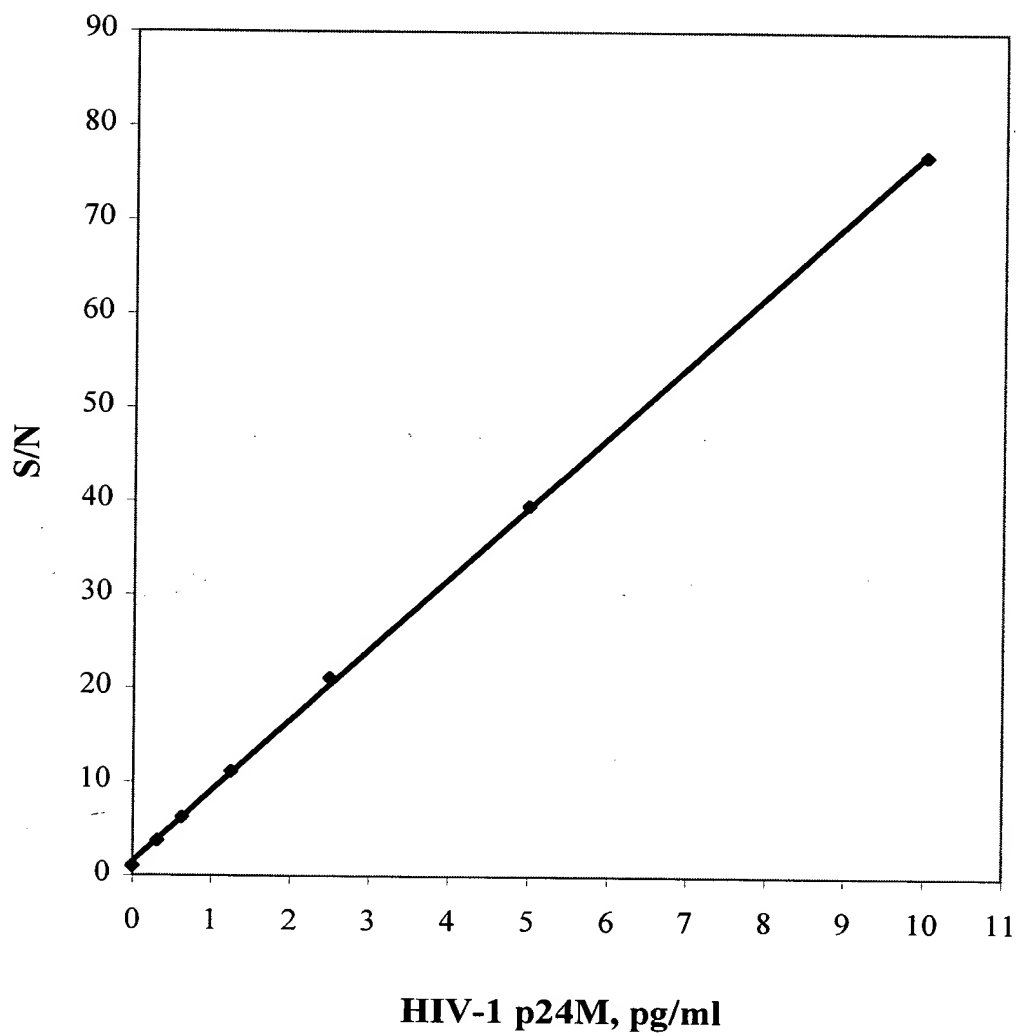


Figure 5 HIV-1 p24 epitopes recognized by p24 Mabs



**Figure 6.**

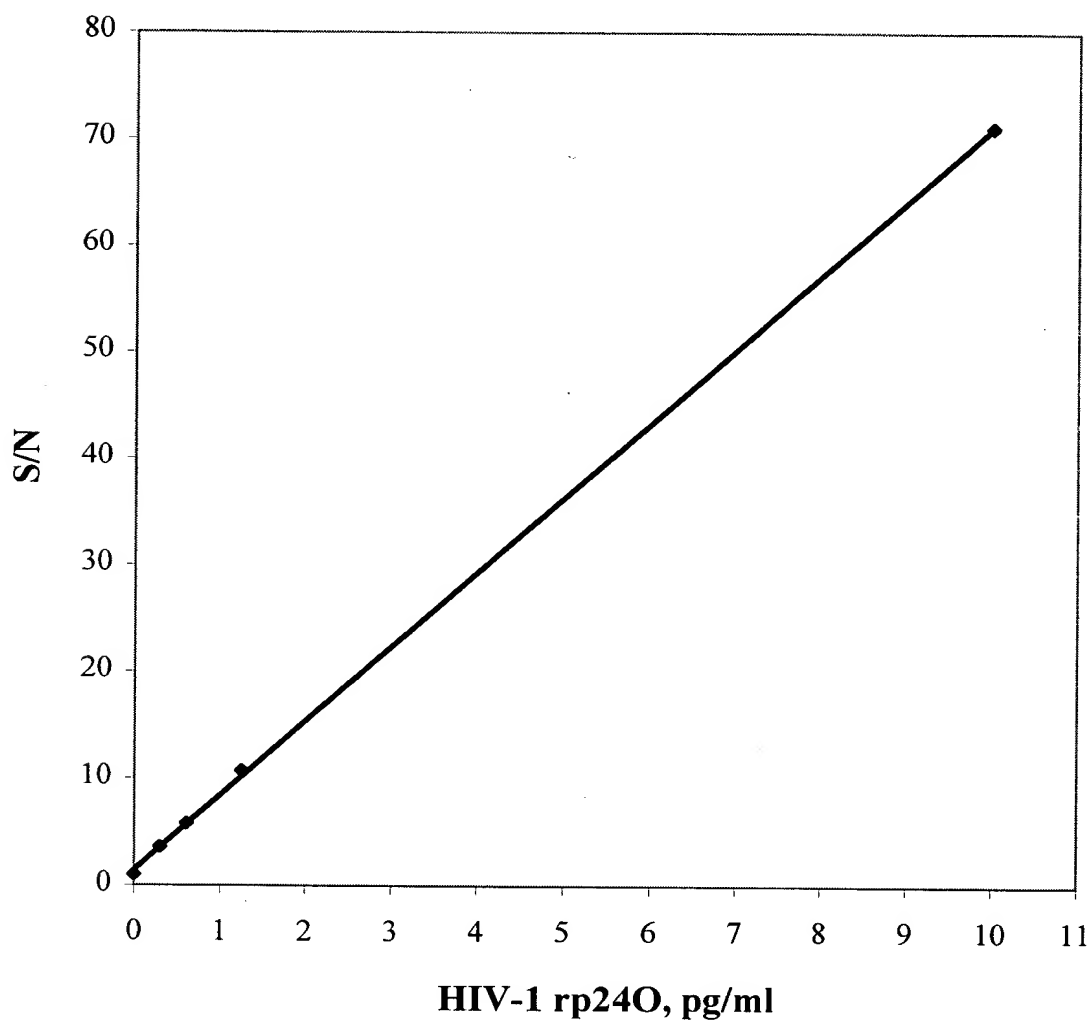
**HIV-1 p24M detection by 120A-270-108-uParticle and  
115B-151-423-ACR on Prism Standalone instrument**





**Figure 7.**

**HIV-1 rp24O detection by 120A-270-108-uParticle and 115B-151-423-ACR on Prism Standalone instrument**



**Figure 8.**

**HIV-2 rp26 detection by 120A-270-108-uParticle and  
115B-151-423-ACR on Prism Standalone instrument**

